1: Can J Oncol 1995 Dec;5 Suppl 1:1-10 Related Articles, Books, LinkOut

Bone remodeling, normal and abnormal: a biological basis for the understanding of cancer-related bone disease and its treatment.

Parfitt AM.

Remodeling the cyclical replacement of old bone by new, serves to maintain its mechanical and metabolic functions. In each cycle a circumscribed volume of bone is removed by osteoclastic resorption and subsequently replaced by osteoblastic formation at the same location. Remodeling is carried out by elongated structures known as basic multicellular units (BMU) that travel through or across the surface of bone. Each BMU lasts about six months, with continued sequential recruitment of new osteoclasts and osteoblasts. Abnormal bone remodeling involves some combination of loss of directional control, increase in number of remodeling cycles and incomplete replacement. In metastatic bone disease, tumor cells find the hematopoietic bone marrow conducive to their survival and growth, because they can manipulate the local cytokine network to increase recruitment of osteoclasts from local precursors and so increase bone resorption. The effect on bone formation is biphasic; an initial increase is due partly to the normal evolution of the BMU, and partly to the induction of reparative woven bone formation. Later, normal BMU-based bone formation may fall to subnormal levels. In some tumors, a generalized increase in osteoclast recruitment and decline in bone formation are the systemic responses to one or more agents released by tumor cells into the circulation, of which the most frequent is parathyroid hormone-related peptide, but in both metastatic and non-metastatic disease, the cellular events in bone are essentially the same. Cancer-related bone disease is amenable to treatment with drugs that inhibit osteoclast recruitment, of which the bisphosphonates are the most effective. Treatment should be started before there has been irreparable damage to bone structure and before the onset of hypercalcemia. Although bisphosphonates remain in bone for a long time, adverse effects are very unlikely within the patient's lifetime.

Publication Types:
- Review

- Review, tutorial

PMID: 8853518 [PubMed - indexed for MEDLINE]

Stedman's Medical Dictionary

osteomyelodysplasia (os´te-o-mI´e-lo-dis-pla´-ze-a)

A disease characterized by enlargement of the marrow cavities of the bones, thinning of the osseous tissue, large, thin-walled vascular spaces, leukopenia, and irregular fever. [osteo- + G. *myelos*, marrow, + dysplasia]

WEST

Help | Logout | Interrupt

Main Menu | Search Form | Posting Counts | Show S Numbers | Edit S Numbers | Preferences

Search Results -

Terms	Documents
l42 and l35	0

Database: US Patents Full-Text Database; US Pre-Grant Publication Full-Text Database; JPO Abstracts Database; EPO Abstracts Database; Derwent World Patents Index; IBM Technical Disclosure Bulletins

Refine Search: `142 and 135` Clear

Search History

Today's Date: 8/17/2001

DB Name	Query	Hit Count	Set Name
JPAB,EPAB,DWPI	l42 and l35	0	L44
JPAB,EPAB,DWPI	l42 and osteo$	8	L43
JPAB,EPAB,DWPI	l36 or l37 or l38 or l39 or l40 or l41	330	L42
JPAB,EPAB,DWPI	INF-beta$2	4	L41
JPAB,EPAB,DWPI	INF-b$2	6	L40
JPAB,EPAB,DWPI	interferon-b$2	5	L39
JPAB,EPAB,DWPI	interferon-beta$2	130	L38
JPAB,EPAB,DWPI	b$2 adj (interferon or inf)	23	L37
JPAB,EPAB,DWPI	beta$2 adj (interferon or inf)	196	L36
JPAB,EPAB,DWPI	bone near resorption	1430	L35
USPT	l32 and @ad<19961122	31	L34
USPT	l24 with l26	0	L33
USPT	l24 with osteo$	48	L32

USPT	l24 same osteo$	63	L31
USPT	l29 and @ad<19961122	181	L30
USPT	l27 or l28	266	L29
USPT	l24 and l26	14	L28
USPT	l24 and osteo$	258	L27
USPT	bone near resorption	2362	L26
USPT	osteo$	14152	L25
USPT	l18 or l19 or l20 or l21 or l22 or l23	1376	L24
USPT	INF-beta$2	27	L23
USPT	INF-b$2	3	L22
USPT	interferon-b$2	20	L21
USPT	interferon-beta$2	399	L20
USPT	b$2 adj (interferon or inf)	183	L19
USPT	beta$2 adj (interferon or inf)	1051	L18
USPT	l16 and @ad<19961122	15	L17
USPT	l15 and l1	21	L16
USPT	l3 or l4 or l5 or l6 or l7 or l8 or l9 or l10 or l11 or l12 or l13 or l14	1518	L15
USPT	b inf	6	L14
USPT	beta inf	10	L13
USPT	interferon-beta	364	L12
USPT	interferon beta	792	L11
USPT	beta interferon	1033	L10
USPT	b interferon	71	L9
USPT	interferon b	86	L8
USPT	inf b	3	L7
USPT	inf-b	2	L6
USPT	inf-beta	24	L5
USPT	inf beta	28	L4
USPT	(interferon-b) or (interferon-beta)	378	L3
USPT	INFB or (inf-B) or (inf-beta) or infbeta or ((inf or interferon) adj (beta of b))	28	L2
USPT	osteoclast or (bone near resorption)	2563	L1

The management of hypercalcemia of malignancy.

Harvey HA.

Department of Medicine, Milton S. Hershey Medical Center, Pennsylvania State University, Hershey 17033, USA.

Hypercalcemia (HCM) occurs in 10-15% of all malignancies, predominantly in patients with solid tumors. This metabolic complication leads to significant morbidity and impairment of quality of life. Recent insights into the pathophysiology of HCM include an understanding of the role of parathyroid-hormone-related peptide and several cytokines secreted by tumors. The osteoclast plays a central role as the final common pathway through which these hormones and cytokines act to cause bone lysis. These findings have led to the development of new treatment strategies. Foremost among these has been the introduction of agents such as the newer bisphosphonates and gallium nitrate, which are potent inhibitors of osteoclast-mediated bone resorption. The clinician can now choose from an array of therapeutic approaches based on a consideration of the mechanisms of action, individual clinical circumstances, efficacy, toxicities and costs of available agents. In addition to their use in the management of HCM, non-toxic drugs that effectively inhibit osteoclast function, such as the bisphosphonates, are playing an emerging role in the palliative treatment of the more common clinical problems of painful lytic bone metastases and osteoporosis.

Publication Types:
- Review
- Review, tutorial

PMID: 7773580 [PubMed - indexed for MEDLINE]

1: Ciba Found Symp 1995;191:187-96; discussion 197-202

Related Articles, Books, LinkOut

PubMed Services

Related Resources

Sex steroids, cytokines and the bone marrow: new concepts on the pathogenesis of osteoporosis.

Manolagas SC, Bellido T, Jilka RL.

Department of Medicine, University of Arkansas for Medical Sciences, Little Rock 72205, USA.

Osteoclasts and osteoblasts, originating in the bone marrow from haemopoietic progenitors and mesenchymal stromal cells, respectively, are responsible for the remodelling of the skeleton throughout adult life. Upon loss of sex steroids, the production of osteoclasts in the bone marrow is increased. This is mediated by an increase in the production of interleukin 6 (IL-6), as well as an increase in the sensitivity of the osteoclastic precursors to the action of cytokines such as IL-6, owing to an up-regulation of the gp130 signal transduction pathway. Consistent with this, oestrogens as well as androgens inhibit IL-6 production through an indirect effect of their specific receptors on the transcriptional activity of the IL-6 gene promoter, and inhibit the expression of the gp130 gene. With advancing age, the ability of the marrow to maintain the high rate of osteoclastogenesis caused by the acute loss of sex steroids is diminished. This is probably the result of the negative effect of senescence on the ability of the marrow to produce stromal/osteoblastic cells, which provide the essential support for osteoclastogenesis. These observations suggest that inappropriate production of osteoclasts or inadequate production of osteoblasts in the bone marrow are fundamental cellular changes in the pathogenesis of postmenopausal and senescence-associated osteoporosis, respectively.

Publication Types:

- Review
- Review, tutorial

PMID: 8582197 [PubMed - indexed for MEDLINE]

Modulation of osteoclast differentiation by local factors.

Suda T, Udagawa N, Nakamura I, Miyaura C, Takahashi N.

Department of Biochemistry, School of Dentistry, Showa University, Tokyo, Japan.

Bone-resorbing osteoclasts are of hemopoietic cell origin, probably of the CFU-M-derived monocyte-macrophage family. Bone marrow-derived osteoblastic stromal cells play an important role in modulating the differentiation of osteoclast progenitors in two different ways: one is the production of soluble factors, and the other is cell-to-cell recognition between osteoclast progenitors and osteoblastic stromal cells. M-CSF is probably the most important soluble factor, which appears to be necessary for not only proliferation of osteoclast progenitors, but also differentiation into mature osteoclasts and their survival. A number of local factors as well as systemic hormones induce osteoclast differentiation. They are classified into three categories in terms of the signal transduction: vitamin D receptor-mediated signals [1 alpha,25(OH)2D3]; protein kinase A-mediated signals (PTH, PTHrP, PGE2, and IL-1); and gp130-mediated signals (IL-6, IL-11, oncostatin M, and leukemia inhibitory factor). All of these osteoclast-inducing factors appear to act on osteoblastic cells to commonly induce osteoclast differentiation factor (ODF), which recognizes osteoclast progenitors and prepares them to differentiate into mature osteoclasts. This line of approach will undoubtedly produce new ways to treat several metabolic bone diseases caused by abnormal osteoclast recruitment such as osteoporosis, osteopetrosis, Paget's disease, rheumatoid arthritis, and periodontal disease.

Publication Types:

- Review
- Review, tutorial

PMID: 8579904 [PubMed - indexed for MEDLINE]

1: Int J Clin Lab Res 1992;21(4):283-7 Related Articles, Books, LinkOut

The critical role of interleukin-6, interleukin-1B and macrophage colony-stimulating factor in the pathogenesis of bone lesions in multiple myeloma.

Bataille R, Chappard D, Klein B.

Immunorhumatologie and INSERM U 291, Centre Gui de Chauliac, Hopital Saint-Eloi, Montpellier, France.

Lytic bone lesions and hypercalcemia are common features of multiple myeloma. In contrast, they are exceptional in other B-cell malignancies. Myeloma bone involvement is related to an uncoupling process associating increased osteoclastic resorption with decreased bone formation. Several osteoclast-activating factors, such as interleukin-1, macrophage colony-stimulating factor, and interleukin-6, are involved in this process. However, interleukin-6, the major myeloma cell growth factor, plays a critical role in myeloma-induced bone resorption.

Publication Types:
- Review
- Review, tutorial

PMID: 1591381 [PubMed - indexed for MEDLINE]

Display Abstract Save Text Order Add to Clipboard

WEST

Generate Collection

L43: Entry 1 of 8 File: JPAB Jan 23, 1991

PUB-NO: JP403014523A
DOCUMENT-IDENTIFIER: JP 03014523 A
TITLE: PHARMACEUTICAL COMPOSITION COMPRISING HUMAN INTERFERON-BETA

PUBN-DATE: January 23, 1991

INVENTOR-INFORMATION:

NAME	COUNTRY
MICHALEVICZ, RITA	

ASSIGNEE-INFORMATION:

NAME	COUNTRY
INTERPHARM LAB LTD	N/A
RAMOT UNIV AUTHORITY FOR APPL RES & IND DEV LTD	N/A

APPL-NO: JP02069519
APPL-DATE: March 19, 1990

INT-CL (IPC): A61K 37/66; A61K 37/66; A61K 37/66

ABSTRACT:

PURPOSE: To prepare a pharmeceutical composition, comprising a human interferon-β (LFN-β) and effective in treating disorders characterized by the lack in maturation of progenitor blood cells to red blood cells.

CONSTITUTION: This pharmaceutical composition comprises a natural IFN-β produced by an induced fibroblast or a recombinant IFN-β produced by a genetic engineering technique (preferably the one produced by a Chinese hamster ovarian cell) and is capable of promoting rapid maturation of progenitor blood cells to normal blast cells and anaphase reticulocytes. The composition is effective in treating osteomyelodysplasia syndrome, anemia, sideroblastic anemia, refractory anemia, myelofibrosis, chronic myelomonocytic leukemia, chronic myelocytic leukemia, anemia caused by chronic infectious disorders and anemia caused by rheumatic arthritis.

WEST

Generate Collection

L43: Entry 2 of 8 File: EPAB Feb 13, 1997

PUB-NO: WO009704799A1
DOCUMENT-IDENTIFIER: WO 9704799 A1
TITLE: REMEDY FOR BONE DISEASES

PUBN-DATE: February 13, 1997

INVENTOR-INFORMATION:

NAME	COUNTRY
IDA, NOBUTAKA	JP
SUZUKI, TOMOHIKO	JP
KUMAGAI, EMI	JP

ASSIGNEE-INFORMATION:

NAME	COUNTRY
TORAY INDUSTRIES	JP
IDA NOBUTAKA	JP
SUZUKI TOMOHIKO	JP
KUMAGAI EMI	JP

APPL-NO: JP09602099
APPL-DATE: July 25, 1996

PRIORITY-DATA: JP18897295A (July 25, 1995)

INT-CL (IPC): A61K 38/21; A61K 45/00
EUR-CL (EPC): A61K038/21; A61K038/21

ABSTRACT:

A useful remedy for bone diseases comprising beta -interferon which has the effect of relatively promoting osteogenesis without showing any calcification insufficiency as observed in the case of gamma -interferon. In particular, the preventive and therapeutic effects of beta -interferon have been proved as an increase in the bone mass in a model animal with bone diseases. Also, an interferon inducer is potentially usable as a remedy for bone diseases.

WEST

Generate Collection

L43: Entry 7 of 8 File: DWPI Feb 13, 1997

DERWENT-ACC-NO: 1997-145372
DERWENT-WEEK: 199713

TITLE: Bone disease treatment agent contg. beta interferon or interferon inducer - used for treating e.g. fractures, osteoporosis or bone tumours

INVENTOR: IDA, N; KUMAGAI, E ; SUZUKI, T

PATENT-ASSIGNEE: TORAY IND INC (TORA)

PRIORITY-DATA: 1995JP-0188972 (July 25, 1995)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
WO 9704799 A1	February 13, 1997	J	034	A61K038/21
JP 09507459 X	October 28, 1997	N/A	000	A61K038/21
EP 783891 A1	July 16, 1997	E	022	A61K038/21

DESIGNATED-STATES: CA JP US AT BE CH DE DK ES FI FR GB GR IE IT LU MC NL PT SE DE FR GB IT

CITED-DOCUMENTS:2.Jnl.Ref; EP 203580 ; JP 6212724 ; JP 7215893 ; US 4921697

APPLICATION-DATA:

PUB-NO	APPL-DATE	APPL-NO	DESCRIPTOR
WO 9704799A1	July 25, 1996	1996WO-JP02099	N/A
JP09507459X	July 25, 1996	1996WO-JP02099	N/A
JP09507459X	July 25, 1996	1997JP-0507459	N/A
JP09507459X		WO 9704799	Based on
EP 783891A1	July 25, 1996	1996EP-0925093	N/A
EP 783891A1	July 25, 1996	1996WO-JP02099	N/A
EP 783891A1		WO 9704799	Based on

INT-CL (IPC): A61K 38/21; A61K 45/00

ABSTRACTED-PUB-NO: WO 9704799A
BASIC-ABSTRACT:

Agent for treating bone disease contains beta -interferon or interferon derivs.

The beta -interferon is native or obtd. genetically. The interferon inducer induces alpha , beta - or gamma -interferon.

USE - The agent is used to treat bone fractures, metabolic disease, osteoporosis and bone tumours.

ABSTRACTED-PUB-NO: WO 9704799A
EQUIVALENT-ABSTRACTS:

CHOSEN-DRAWING: Dwg.1/6

DERWENT-CLASS: B04
CPI-CODES: B04-H05B; B14-N01;

WEST

Generate Collection

L5: Entry 1 of 2 File: USPT Apr 8, 1997

DOCUMENT-IDENTIFIER: US 5618700 A
TITLE: IL-6 specific monoclonal antibodies, hybridomas therefor and methods of making and using same

BSPR:
The cytokine interleukin-6 has multiple functions and activities and it is referred to also as interferon-B2 (IFN-B2) B-cell differentiation factor (BCDF) or B-cell stimulatory factor 2 (BSF-2), hybridoma growth factor (HGF), hepatocyte stimulatory factor (HSF), and 26 kDa protein.

WEST

Generate Collection

Search Results - Record(s) 1 through 8 of 8 returned.

☐ 1. Document ID: JP 03014523 A

L43: Entry 1 of 8 File: JPAB Jan 23, 1991

PUB-NO: JP403014523A
DOCUMENT-IDENTIFIER: JP 03014523 A
TITLE: PHARMACEUTICAL COMPOSITION COMPRISING HUMAN INTERFERON-BETA

Full | Title | Citation | Front | Review | Classification | Date | Reference | Claims | KWIC | Draw Desc | Image

☐ 2. Document ID: WO 9704799 A1

L43: Entry 2 of 8 File: EPAB Feb 13, 1997

PUB-NO: WO009704799A1
DOCUMENT-IDENTIFIER: WO 9704799 A1
TITLE: REMEDY FOR BONE DISEASES

Full | Title | Citation | Front | Review | Classification | Date | Reference | Claims | KWIC | Draw Desc | Image

☐ 3. Document ID: AU 200052700 A, WO 200068387 A2

L43: Entry 3 of 8 File: DWPI Nov 21, 2000

DERWENT-ACC-NO: 2001-007398
DERWENT-WEEK: 200112
COPYRIGHT 2001 DERWENT INFORMATION LTD

TITLE: Novel interferon-beta activity (IbA) proteins which have greater stability than interferon-beta (IFN-beta) useful for the treatment of IFN-beta related disorders such as multiple sclerosis

Full | Title | Citation | Front | Review | Classification | Date | Reference | Claims | KWIC | Draw Desc | Image

☐ 4. Document ID: AU 200038803 A, WO 200058483 A2

L43: Entry 4 of 8 File: DWPI Oct 16, 2000

DERWENT-ACC-NO: 2000-638352
DERWENT-WEEK: 200106

TITLE: Producing recombinant proteins in protozoan host involves use of expression cassette comprising flanking regions homologous to ribosomal RNA gene coding region and intergenic regions for RNA transcript processing

Full | Title | Citation | Front | Review | Classification | Date | Reference | Claims | KWIC | Draw Desc | Clip Img | Image

---

☐ 5. Document ID: AU 200024838 A, WO 200038652 A1

L43: Entry 5 of 8 File: DWPI Jul 31, 2000

DERWENT-ACC-NO: 2000-452289
DERWENT-WEEK: 200050

TITLE: Pharmaceutical composition for the sustained-release of a biologically active agent (BAA), such as granulocyte-colony stimulating factor, comprises incorporating the BAA into a biocompatible polyol/oil suspension

Full | Title | Citation | Front | Review | Classification | Date | Reference | KWIC | Draw Desc | Image

---

☐ 6. Document ID: NO 200101860 A, WO 200023114 A2, AU 200014465 A

L43: Entry 6 of 8 File: DWPI Jun 15, 2001

DERWENT-ACC-NO: 2000-339534
DERWENT-WEEK: 200141

TITLE: New glycosylated interferon-beta-1a coupled to a non-naturally occurring polymer containing a polyalkylene glycol useful for treating e.g. tumors, autoimmune disorders, viral infections and angiogenic diseases

Full | Title | Citation | Front | Review | Classification | Date | Reference | KWIC | Draw Desc | Image

---

☐ 7. Document ID: WO 9704799 A1, JP 09507459 X, EP 783891 A1

L43: Entry 7 of 8 File: DWPI Feb 13, 1997

DERWENT-ACC-NO: 1997-145372
DERWENT-WEEK: 199713
COPYRIGHT 2001 DERWENT INFORMATION LTD

TITLE: Bone disease treatment agent contg. beta interferon or interferon inducer - used for treating e.g. fractures, osteoporosis or bone tumours

Full | Title | Citation | Front | Review | Classification | Date | Reference | KWIC | Draw. Desc | Clip Img | Image

☐ 8. Document ID: US 4758428 A

L43: Entry 8 of 8 File: DWPI Jul 19, 1988

DERWENT-ACC-NO: 1988-219882
DERWENT-WEEK: 198831
COPYRIGHT 2001 DERWENT INFORMATION LTD

TITLE: Multi-class hybrid interferon polypeptide(s) - having sequence from interferon-alpha-1 and sequence from interferon-beta-1 for restricted activity

Full | Title | Citation | Front | Review | Classification | Date | Reference | KWIC | Draw. Desc | Image

Generate Collection

Terms	Documents
l42 and osteo$	8

Display 10 Documents, starting with Document: 8

Display Format: TI Change Format

1: Maturitas 1996 May;23 Suppl:S65-9 Related Articles, Books, LinkOut

Estrogen and bone metabolism.

Vaananen HK, Harkonen PL.

Department of Anatomy and Biocenter, University of Oulu, Finland.

Estrogen plays an important role in the growth and maturation of bone as well as in the regulation of bone turnover in adult bone. During bone growth estrogen is needed for proper closure of epiphyseal growth plates both in females and in males. Also in young skeleton estrogen deficiency leads to increased osteoclast formation and enhanced bone resorption. In menopause estrogen deficiency induces cancellous as well as cortical bone loss. Highly increased bone resorption in cancellous bone leads to general bone loss and destruction of local architecture because of penetrative resorption and microfractures. In cortical bone the first response of estrogen withdrawal is enhanced endocortical resorption. Later, also intracortical porosity increases. These lead to decreased bone mass, disturbed architecture and reduced bone strength. At cellular level in bone estrogen inhibits differentiation of osteoclasts thus decreasing their number and reducing the amount of active remodeling units. This effect is probably mediated through some cytokines, IL-1 and IL-6 being strongest candidates. Estrogen regulates the expression of IL-6 in bone marrow cells by a so far unknown mechanism. It is still uncertain if the effects of estrogen on osteoblasts is direct or is due to coupling phenomenon between bone formation to resorption.

Publication Types:
- Review
- Review, tutorial

PMID: 8865143 [PubMed - indexed for MEDLINE]

New insights into the cellular, biochemical, and molecular basis of postmenopausal and senile osteoporosis: roles of IL-6 and gp130.

Manolagas SC, Bellido T, Jilka RL.

Division of Endocrinology and Metabolism, University of Arkansas for Medical Sciences, Little Rock 72205, USA.

It is well established that osteoclasts, the cells responsible for bone resorption, are derived from hematopoietic progenitors (CFU-GM), whereas the bone-forming osteoblasts are of the same lineage as the mesenchymal stromal cells of the bone marrow. Moreover, it is widely accepted that osteoclast formation depends on cells of the stromal/osteoblastic lineage. The appreciation of the ontogeny of osteoclasts and osteoblasts, the interaction between them, and the role of local factors that regulate their development has led to the emergence of new insights into the pathophysiology of the osteopenias associated with estrogen deficiency and senescence. Consistent with histomorphometric data from humans, there is now evidence from studies in animal models suggesting that a critical cellular change caused by the loss of ovarian, as well as testicular, function is an increase in osteoclastogenesis. This change is apparently mediated by an increase in the production of the osteoclastogenic cytokine interleukin-6 by cells of the bone marrow, which follows the removal of an inhibiting control of estrogens or androgens on IL-6. The inhibiting effect of sex steroids on IL-6 production is mediated by their respective receptors and is exerted indirectly on the transcriptional activity of the proximal 225 bp sequence of the IL-6 gene promoter. Besides its effects on IL-6 production, loss of gonadal function may also cause an increase in the sensitivity of the osteoclastic precursors to the action of cytokines such as IL-6, due to an upregulation of the gp130 signal transduction pathway.(ABSTRACT TRUNCATED AT 250 WORDS)

Publication Types:
- Review
- Review, tutorial

PMID: 7657404 [PubMed - indexed for MEDLINE]

1: Hematol Oncol Clin North Am 1992 Apr;6(2):285-95

Mechanisms of bone lesions in multiple myeloma.

Bataille R, Chappard D, Klein B.

Laboratoire d'Hematologie, Centre Hospitalier Regional et Universitaire, Hotel-Dieu, Nantes, France.

Lytic bone lesions and hypercalcemia are common features of multiple myeloma; however, they are exceptional in other B-cell malignancies. Myeloma bone involvement is related to an uncoupling process associating an increased osteoclastic resorption with decreased bone formation. Several osteoclast-activating factors such as interleukin-1 (IL-1), tumor necrosis factor, and interleukin-6 (IL-6) are involved in this process. IL-6, the major myeloma cell growth factor, could play a critical role in myeloma-induced bone resorption in association with other known or unknown hematopoietic growth factors, however.

Publication Types:
- Review
- Review, tutorial

PMID: 1582975 [PubMed - indexed for MEDLINE]

1: Stem Cells 1995 Aug;13 Suppl 2:40-7 Related Articles, Books

The mechanisms of bone lesions in human plasmacytomas.

Bataille R.

Laboratoire d'Hematologie, Institut de Biologie, quai Moncousu, France.

Bone involvement, mainly bone destruction, is a characteristic feature of human plasma-cytomas (PCT); on the other hand, it is exceptional in B cell malignancies other than PCT. Bone destruction is the consequence of an uncoupling process (associating an increased osteoclastic resorption with an inhibition of bone formation) and of a marked bone loss. Conversely, patients lacking lytic bone lesions or those with sclerotic PCT have an increased bone resorption but maintain a normal or have an increased bone formation (coupling process). This excessive osteoclastic resorption is an early phenomenon, as opposed to the inhibition of bone formation, and is observed several months or years before the occurrence of the first clinical symptoms of the disease. Thus, it is an early criterion of malignancy, useful for discriminating benign monoclonal gammopathy and smoldering PCT from early active PCT. Several inflammatory cytokines, osteoclast colony-stimulating factors and osteoclast activating factors produced either by the PCT cells themselves or the hematopoietic microenvironment, are probably involved in the pathogenesis of such bone lesions. At the present time, interleukin 6 (IL-6), (a major PCT-cell growth factor), its agonistic receptor gp80, IL-1 beta and tumor necrosis factor-alpha appear to be the most critical factors. Indirect arguments suggest that other hematopoietic growth factors, mainly macrophage colony-stimulating factor, might play a role. Taken together, these data demonstrate a close relationship between PCT-cell growth factors and factors involved in the occurrence of bone lesions.

Publication Types:
- Review
- Review, tutorial

PMID: 8520510 [PubMed - indexed for MEDLINE]

1: Support Care Cancer 1995 Mar;3(2):123-9 Related Articles, Books, LinkOut

The management of hypercalcemia of malignancy.

Harvey HA.

Department of Medicine, Milton S. Hershey Medical Center, Pennsylvania State University, Hershey 17033, USA.

Hypercalcemia (HCM) occurs in 10-15% of all malignancies, predominantly in patients with solid tumors. This metabolic complication leads to significant morbidity and impairment of quality of life. Recent insights into the pathophysiology of HCM include an understanding of the role of parathyroid-hormone-related peptide and several cytokines secreted by tumors. The osteoclast plays a central role as the final common pathway through which these hormones and cytokines act to cause bone lysis. These findings have led to the development of new treatment strategies. Foremost among these has been the introduction of agents such as the newer bisphosphonates and gallium nitrate, which are potent inhibitors of osteoclast-mediated bone resorption. The clinician can now choose from an array of therapeutic approaches based on a consideration of the mechanisms of action, individual clinical circumstances, efficacy, toxicities and costs of available agents. In addition to their use in the management of HCM, non-toxic drugs that effectively inhibit osteoclast function, such as the bisphosphonates, are playing an emerging role in the palliative treatment of the more common clinical problems of painful lytic bone metastases and osteoporosis.

Publication Types:
- Review
- Review, tutorial

PMID: 7773580 [PubMed - indexed for MEDLINE]

```
     FILE 'MEDLINE, BIOSIS, CANCERLIT' ENTERED AT 15:00:09 ON 17 AUG 2001
L1         27820 S BONE(W)RESORPTION
L2         17446 S OSTEOCLAST
L3         37992 S L1 OR L2
L4         12645 S INFB OR (INF(A)(BETA OR B)) OR (INTERFERON(A)(BETA OR B))
L5             3 S L3 AND L4
L6             2 DUP REM L5 (1 DUPLICATE REMOVED)
L7        748030 S BONE
L8           355 S L7 AND L4
L9           192 S L7(S)L4
L10           85 DUP REM L9 (107 DUPLICATES REMOVED)
L11           75 S L10 AND PY<1997
L12           63 S L8 NOT (BONE(W)MARROW)
L13           36 DUP REM L12 (27 DUPLICATES REMOVED)
L14           29 S L13 AND PY<1997
```